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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,119	01/11/2001	Eliyahou Harari	M-10187-36C	1201
66785 7590 01/19/2007 PARSONS HSUE & DE RUNTZ, LLP - SANDISK CORPORATION 595 MARKET STREET SUITE 1900 SAN FRANCISCO, CA 94105			EXAMINER NGUYEN, TAN	
			ART UNIT	PAPER NUMBER
			2827	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/19/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/759,119

Applicant(s)

HARARI ET AL.

Examiner

Tan T. Nguyen

Art Unit

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63-77 and 80-124 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 63-77 and 80-124 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The amendment submitted by Applicant on October 11, 2006 has been received and entered.

2. Claims 63-77, 80-124 are pending.

Claims 1-62, 77-78 have been canceled.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In claims 63-72, 73-77, 80-93, applicant fails to provide adequate written description for channels of multi-level memory cells of a first group of the plurality of non-volatile multi-level cell being coupled in parallel between a first bit line and a reference potential, channels of multi-level memory cells of a second group of the plurality of non-volatile multi-level memory being coupled in parallel between a second bit line and the reference potential. Applicant also fails to provide adequate written description for the first, second, third, fourth verifying reference parameters (electrical values), the first, second, third reading reference parameters (electrical values), wherein the first verifying reference parameter is allocated below the first reading reference parameter, the second verifying reference parameter is allocated between the first reading reference and the second reading reference parameter, the third verifying reference parameter is allocated between the second reading reference parameter and the third reading reference parameter, and the fourth verifying reference parameter is allocated above the third reference parameter. It appears that in U.S. Patent No. 5,095,344 and U.S. Patent No. 5,991,517, in Figure 11c and 15B, the reference

currents I_{REF} are used in both programming verifying operation and reading operation. There is no support for the verifying reference parameters (for settling operation) and reading reference parameters (for reading operation), and the relative relation between the verifying reference parameters (electrical values) and the reading reference parameters (electrical values).

In claims 94-124, applicant fails to provide an adequate written description of parameter generating circuitry generating a first programming reference parameter, a first read reference parameter, a second programming reference parameter, a second read reference parameter, a third programming reference parameter, and a third read reference parameter, wherein the first read reference parameter is allocated between a level corresponding to the erase state and the first programming reference parameter, the second read reference parameter is allocated between the first programming reference parameter and the second programming reference parameter, and the third read reference parameter is allocated between the second programming reference parameter and the third programming reference parameter.

4. Claims 63-7, 80-124 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what the verifying reference parameters and the reading reference parameters are.

5. **REMARKS**

It appears that the Applicants have not provided an adequate written description for the verifying reference parameters and the reading reference parameters. The reference currents I_{REF} disclosed by Applicant are used in both the program verifying operation and the reading operation, while Banks's patents using the verifying reference parameters for program verifying operation and the reading reference parameters for reading operation. Applicants also have failed to provide adequate written for the relative relation between the verifying reference parameters and the reading reference parameters. It would be more helpful if Applicants would point out specifically where in the disclosure each limitation of the claims is disclosed.

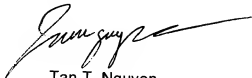
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan T. Nguyen whose telephone number is (571) 272-1789. The examiner can normally be reached on Monday to Friday from 07:00 AM to 03:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian, can be reached at (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tan T. Nguyen', with a long horizontal flourish extending to the right.

Tan T. Nguyen
Primary Examiner
Art Unit 2827
January 5, 2007